

COUNTY OF DUMFRIES



SPECIAL REPORT

UPON THE

*Health and Sanitary Condition of the County
during the Second World War*

1939-1945

BY

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To

The Department of Health for Scotland.

The County Council of Dumfries.

LADIES AND GENTLEMEN,

Reports on the Health and Sanitary Condition of the County, normally submitted annually by the Medical Officer of Health, were discontinued during the war. The Secretary of State has now called for a report summarising the experiences of the war years. That now submitted is necessarily brief, much of the detail given in pre-war years, having been omitted. For 1946 and subsequent years annual reports will be drawn up in a form to be prescribed by the Secretary of State.

The war naturally threw a considerable strain on the public health department, as many new duties had to be undertaken with a reduced staff. Two sanitary inspectors who were attached to the head office were released as soon as war broke out, two members of the public assistance staff were called up as Territorials, one of the local government officers rejoined the Forces, and junior clerks in the district offices were called up as they reached military age. In addition a number of lady clerks and typists left, either to join the Forces, to undertake other work of national importance, or for personal reasons. All the remaining staff had to undertake duties of some description under the Civil Defence organisation, and my thanks are due to them for the efficient way they carried out those duties in addition to their routine work.

As this is in all probability the last Annual Report that I shall have the honour of submitting to the council I might, under ordinary circumstances, have attempted a brief summary of the extent to which the public health service of the county has developed in the past, or even ventured to forecast its probable evolution in the future. But newsprint is still in short supply, anecdotage is apt to be tedious, and prophesy, always risky, is at the moment peculiarly unprofitable. The machinery for administration of the public health services in Britain will probably be radically altered in the near future, and expressions of opinion on the "inevitable" results of that alteration may properly be left to the youthful and inexperienced.

Social changes are ultimately justified or condemned by their results, and these cannot be assessed in advance.

But though the kind of health service to be given by local authorities in the future may differ from that evolved in the recent past, it need not be less important. The duties with which they were originally specially charged were those dealing with environmental conditions. It is only since the beginning of the present century that "personal" health services—those, for example, concerned with maternity and child welfare, health of school children, or prevention of tuberculosis—have come under their supervision. Largely owing to their energy and initiative, those services have developed to such an extent that some means of co-ordinating effort and of utilising to the full all the resources of medical science has become essential, if individual authorities are not to be called upon to shoulder a burden that many of them would find intolerably heavy.

It seems, then, that we shall probably return to the original conception of a local authority's function in relation to health. The environmental services will, it is believed, remain their business. But the conception of environmental influence has expanded greatly in recent years. It can no longer be confined to matters of housing, water supply, sewage disposal, and so forth. Very many other factors—social, industrial, economic and psychological—influence the health of a community. The precise manner in which they do so is often obscure, and its investigation should afford ample scope for energy and enthusiasm on the part of local authorities, even though their interest in health becomes more and more concerned with its social and less with its medical aspects.

I am, Ladies and Gentlemen,

Your obedient Servant,

JOHN RITCHIE,

Medical Officer of Health.

REPORT.

GENERAL.

Although enemy aircraft dropped a considerable number of bombs on the county during the war, only one incident was associated with loss of life, when a single bomb killed some 27 persons and injured many others. None of the county services affecting health, *e.g.* water mains, sewers or sewage disposal works, were injured, and the amount of damage to dwelling-houses was insufficient to create a problem.

There was no increase in the general death-rate during the war years, nor in the rates for the more important causes of death. The infantile mortality-rate, though unduly high in 1939-41, fell during the latter part of the war, and in 1945 reached the comparatively low figure of 49 per 1000.

The influx of population to the county—partly of persons engaged in various sorts of war work, partly refugees, official or unofficial, from dangerous areas—raised various problems. The number of children for whom school accommodation had to be provided necessitated the use as schoolrooms of some premises not very well suited for the purpose, generally on account of inadequate lighting and ventilation. Although those could not have been approved for prolonged use, no serious objection could be raised to them in a time of emergency, and there is no reason to suppose that the children occupying them suffered any ill-effects.

One disconcerting result of the war was the serious degree of overcrowding which resulted from the influx of war workers and evacuees. Every house that could be regarded as habitable at all had to be utilised, and in many of them there was an extreme degree of overcrowding—a state of matters which still exists and, unfortunately, will probably persist for some time. This naturally gave rise to anxiety lest infectious disease should become rampant in conditions that seemed peculiarly favourable to its spread. That it did not is gratifying rather than explicable.

No case of typhus fever or of small-pox, infections specially associated with war, was notified in the county during the years

under review. There was an increase in the incidence of cerebro-spinal fever, such as is frequently associated with the embodiment of young troops, but it never attained epidemic proportions. How far the epidemic of diphtheria, referred to later in this report, could be ascribed to movement of the population due to war conditions it is difficult to say.

The Government's "evacuation" scheme which entailed putting a large number of children, many from very poor city homes, in new and unfamiliar surroundings, raised problems that would have been more difficult had not a large proportion of the incomers returned to their homes within a few days of their arrival in the county. Even so they caused a good deal of work and worry. As it was necessary to get them distributed to billets throughout the county as quickly as possible, medical examination on arrival had to be rapid and somewhat perfunctory, and for weeks after the public health office was bombarded with complaints about the verminous condition and filthy habits of some of our guests. The majority of billetors faced the situation sensibly, recognising that dealing with the transferred children was a valuable form of national service, the district nurses did excellent work and matters shortly improved considerably. The children who suffered from skin diseases or infestations too severe to be dealt with at home were treated in hospital, and eventually Eskdale Hospital was opened as a permanent residence for those who, after a fair trial, proved unsuitable for billeting in private houses. It is not suggested, of course, that all the children sent to the county were of this type, but they were sufficiently numerous to constitute a real war-time problem and—more important—to indicate that there is a section of the population whose education for some generations should be mainly directed to raising their ideas of personal cleanliness and environmental hygiene. Had time permitted it would have been useful to classify the incomers according to their housing conditions in their native places—to see, that is, how those who came from shum areas compared with the inhabitants of "housing scheme" houses—but under the circumstances this was quite impracticable.

It is a commonplace that war often demonstrates the urgent necessity of what during peace was regarded as mildly desirable.

As mentioned later, the provision of facilities for institutional midwifery, discussed at leisure for three years before the war, had to be settled in about as many weeks when hostilities began. Unfortunately other problems have not been as easily soluble. The shortage of nurses, from which the county has suffered along with the rest of the country, is no new phenomenon. Fifteen years ago the "Lancet" appointed a commission to enquire into the causes of the insufficient number of nurses trained and in training, which even then was causing serious misgivings. No adequate remedy has yet been discovered, and it seems probable that the deficiency will handicap the hospital and other nursing services for some time yet.

Two difficulties specially affecting this county were accentuated during the war. First, the lack of accommodation for mental defectives, especially those of the lower grades. There is no special institution in the county for those unfortunates, and the total institutional facilities in Scotland are inadequate. War-time exigencies, especially reduced staffs, prevented even the existing institutions from utilising their full accommodation, and there were several distressing cases in which a mother whose husband was on military service had to cope, as best she might, with a mentally defective child requiring a great deal of attention as well as with the rest of her family and with her household duties—made much more onerous by the war. I have already reported to the committee on this problem.

Second, there is no suitable accommodation for dealing with children whose parents or guardians are unwilling or unable to look after them. This includes orphaned or deserted children who become chargeable under the poor law, children of widows or unmarried mothers who wish to earn a living and are prepared to pay for their children's maintenance, children who are boarded out with unsuitable guardians and ought to be removed to a place of safety, and children for whom temporary accommodation is required, as, for instance, when the mother has to go to hospital and no suitable person is available to look after her children. The practice of boarding out children with suitable guardians, which is really the most suitable and satisfactory way of dealing with such children, is at present much more difficult than it was in pre-war days, chiefly due to the overcrowded state of most houses in the county. Generally,

the only accommodation we can offer is in the general poorhouse at Rowantree. Though every care is given to children sent to Rowantree, the place is neither designed nor staffed for this purpose, and were it not for the untiring care and devotion of the matron the system must have broken down ere this. At present the committee are considering establishing a home for such children in which they will be altogether separated from the poorhouse environment, and it is to be hoped that this will prove feasible.

VITAL STATISTICS.

As the war made it impossible to take the decennial census, due in 1941, and there were extensive movements of the population during the years under review, estimates of the number of people living in the county must be accepted with reserve.

Births.

The number of live-births occurring annually in the County and Small Burghs and the corresponding birth-rates were as follows :—

Year.	Registered Live Births.	Corrected Number.	Birth-rate per 1000 population.
1939	828	870	15.1
1940	775	885	15.1
1941	844	1022	16.6
1942	809	1097	17.6
1943	807	1128	18.3
1944	758	1117	18.1
1945	584	948	15.6

The increasing difference between the number of births registered in the County and the corrected number assigned to it by the Registrar-General for Scotland is, of course, due to the number of women resident in the County who are confined in Cresswell Counties Maternity Hospital.

Judging by the experience of the rest of Scotland, the increase in the birth-rate during the later years of the war is to be attributed to the increased number of marriages, and does not necessarily indicate any increase in fecundity—that is, the number of children being born is less than that which would

have been expected had the rate of reproduction amongst married women remained as high as it was before the war.

The following figures showing the fall in the birth-rate in the County and Small Burghs since the beginning of the present century are of interest :—

Year.	Birth-rate per 1000 population.
1901	25.0
1911	21.5
1921	23.3
1931	17.7
1941	16.6

Illegitimate Birth-rate.—This is stated as a percentage of the total births. It has always been unduly high in the County, sometimes approximating to double the rate for Scotland. The war does not appear to have affected it to any marked extent. It has shown a rise in the last four years, but the average rate for 1939-45 was the same as that for the six preceding years. The figures are as follows :—

Year.	Illegitimate Birth-rate.	Average.
1933	11.7	11.2
1934	11.2	
1935	12.2	
1936	12.6	
1937	9.7	
1938	9.7	
1939	9.4	
1940	8.1	
1941	9.9	
1942	11.7	
1943	12.8	
1944	13.0	
1945	13.6	

The high illegitimate birth-rate raises several administrative problems. The maternal death-rate amongst unmarried mothers is higher than that amongst married women, and the infantile mortality amongst illegitimate babies much higher than that for the legitimate. As even the high rate of illegitimacy in Dumfriesshire affects only about 100 to 120 births annually, the higher mortality among unmarried mothers and illegitimate

children does not affect the general rates materially. But over a period of years the total loss of life involved must be considerable.

Apart from this, the illegitimate infant is a frequent cause of application for public assistance. The mother is often admittedly in a difficult position. If she gets work to enable her to support her child she must make arrangements, often unsatisfactory, for its care. If she looks after the child herself she is frequently debarred, in consequence, from undertaking remunerative work, and is compelled to apply for public assistance to maintain herself and her child. The only institutional accommodation available in the County for illegitimate babies—in fact for any children whose parents are not able or available to support them—is in the poorhouse, which is neither designed nor staffed for this purpose.

Deaths.

The number of deaths and corresponding death-rates recorded in the County and Small Burghs during the years under review were as follows :—

YEAR.	DEATHS.		DEATH-RATE.	
	Registered.	Corrected for Transfers.	Corrected.	Adjusted for Age and Sex.
1939	776	793	13.8	12.2
1940	902	867	15.3	13.5
1941	861	822	14.1	12.4
1942	855	808	13.8	12.2
1943	857	823	14.4	12.7
1944	755	754	13.3	11.7
1945	739	742	13.2	11.7

Those figures do not show any marked deviation from pre-war returns.

The causes of death in each of the seven years is shewn in Table I.

Table I.

DEATHS IN DUMFRIESSHIRE, EXCLUDING LARGE BURGH.

	1939	1940	1941	1942	1943	1944	1945
Typhoid Fever (including paratyphoid)	M ... ..	...	...	...	6	...	...
	F ... ..	...	...	...	...	...	...
Measles	M	1	...	...	...	1	...
	F	2	...	...	1	...	...
Scarlet fever	M ... ..	...	...	...	1	...	...
	F	3	...	...	...	...	...
Whooping-cough	M 3	1	1	...	...	1	1
	F 7	...	1	2	2	2	...
Diphtheria	M 1	1	4	2	3	1	...
	F 1	7	3	...	3	2	4
Influenza	M 6	23	6	2	8	6	1
	F 11	25	6	3	4	6	3
Cerebro-spinal fever	M	2	2	...	1	2	1
	F	10	5	...	3	3	...
Other epidemic diseases	M ... ..	...	...	...	...	...	...
	F 1	1	...	...	...	...	...
Tuberculosis, respiratory	M 6	8	11	8	8	5	11
	F 6	11	11	10	10	9	9
Other tuberculous disease	M 3	7	2	11	3	4	5
	F 2	2	3	4	2	7	4
Other infectious and parasitic disease	M 2	2	3	1	4	2	7
	F ... ..	...	3	2	1	1	2
Cancer, malignant disease	M 37	35	33	50	38	45	34
	F 61	44	48	68	58	46	57
Diabetes mellitus	M 5	4	2	1	3	...	1
	F 6	7	6	6	4	5	6
Other general diseases, chronic poisonings... ..	M 5	5	4	5	6	4	5
	F 10	7	10	7	9	8	8

Table I.--*continued.*

		1939	1940	1941	1942	1943	1944	1945
Cerebral hæmorrhage ...	M	44	46	57	49	42	48	51
	F	56	67	48	54	77	72	57
Other diseases of nervous system and sense organs ...	M	6	12	7	7	9	6	5
	F	7	6	9	8	6	3	3
Heart disease ...	M	116	128	123	118	110	94	131
	F	128	101	108	114	101	101	119
Other circulatory disease ...	M	6	10	17	11	6	14	7
	F	7	9	12	12	7	10	12
Bronchitis ...	M	15	17	10	15	12	13	4
	F	9	22	17	5	16	11	9
Pneumonia (all forms) ...	M	19	22	17	19	17	11	12
	F	17	15	13	15	14	5	12
Other respiratory diseases ...	M	3	5	6	5	6	4	4
	F	1	6	6	4	5	2	8
Gastric and duodenal ulcer ...	M	7	3	3	3	8	2	2
	F	...	...	1	1	2	1	1
Diarrhœa (all ages) ...	M	4	5	9	2	2	2	2
	F	1	2	5	1	2	6	2
Appendicitis ...	M	2	1	1	1	1	1	2
	F	1	...	1	3	1	...	1
Cirrhosis of liver ...	M	2	1	2	1	1	...	...
	F	1	1	1	...	...	...	...
Other diseases of liver ...	M	...	...	1	2	2	5	...
	F	1	3	3	10	3	4	...
Other digestive diseases ...	M	2	3	4	1	4	8	3
	F	6	8	3	3	5	7	6
Acute and chronic nephritis...	M	6	23	11	6	15	12	6
	F	10	11	15	7	14	12	10
Other diseases of genito urinary system ...	M	11	9	9	5	21	11	11
	F	3	5	2	...	2	4	...

Table I.—*continued.*

	1939	1940	1941	1942	1943	1944	1945	
Puerperal sepsis	M	...	...	...	...	...	...
	F	3	...	...	1	3	2	1
Other puerperal causes ...	M	...	...	...	...	...	...
	F	8	1	2	4	5	2	2
Diseases of skin and loco- motory system	M	...	7	3	2	2	...	1
	F	1	2	...	...	4	1	1
Congenital debility ; prema- ture birth ; malformations	M	18	16	30	19	20	32	20
	F	23	11	15	18	17	17	15
Old age	M	12	11	9	4	11	6	4
	F	13	17	15	13	10	17	13
Suicide	M	3	2	1	7	7	2	4
	F	...	...	1	1	2	1	...
Other violence	M	29	24	19	5	13	9	7
	F	11	13	9	11	11	11	5
Syphilis	M	...	...	3	1	2	5	3
	F	...	...	...	1	...	2	1
Meningitis. Diseases of spinal cord	M	...	...	2	3	2	2	1
	F	...	...	3	3	2	2	2
Tumours, non-malignant or non-defined	M	...	...	...	1	...	...	...
	F	...	...	...	3	...	...	...
Acute rheumatism	M	...	...	...	1	...	...	...
	F	...	...	1	...	...	...	1
Road transport accidents ...	M	...	...	8	14	9	3	4
	F	...	...	3	17	3	4	2
Ill-defined or unknown ...	M	6	9	10	9	7	2	5
	F	2	5	3	3	4	5	11
All Causes	M	379	443	430	402	410	363	355
	F	414	424	392	406	413	391	387
Both Sexes		793	867	822	808	823	754	742

Infantile Mortality.

The Infantile Mortality-rate—*i.e.* the number of deaths of infants under one year of age per 1000 live-births registered during the year—was unduly high during 1939, 1940 and 1941, the rates in these three years being 71, 72 and 73 respectively. It fell during the following four years, when the rates were 52, 51, 64 and 49.

The following graph shows the infantile mortality rate for the years 1935-44, and indicates that during the latter part of the decade it was well below the mean :—.

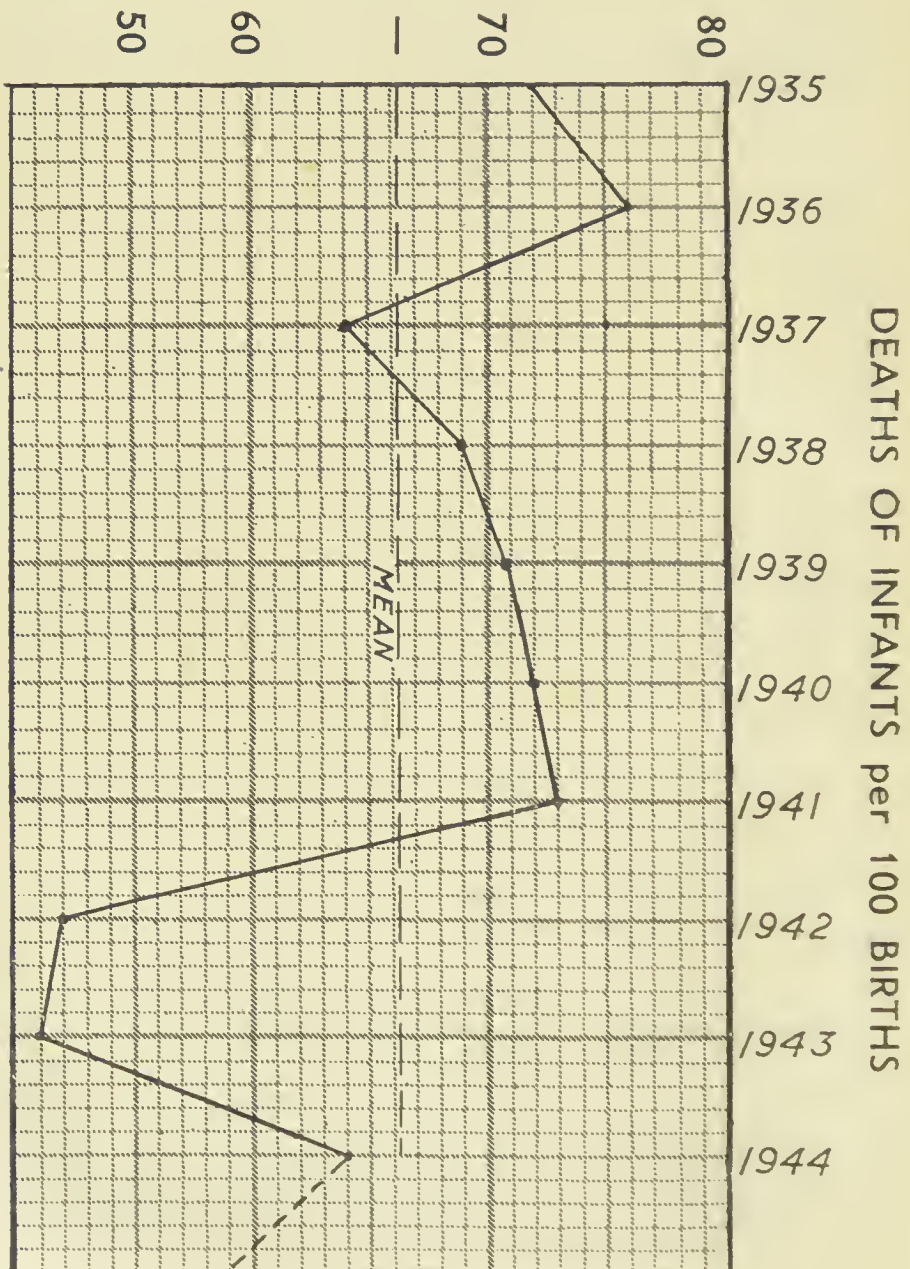


Table II. shows the causes of death among infants during the years under consideration —

Table II.
INFANTILE MORTALITY.

Causes of Death.	1939	1940	1941	1942	1943	1944	1945	Total.
Cerebro-spinal fever ...	...	1	2	2	...	2	...	7
Whooping-cough ...	8	1	1	1	1	3	1	16
Tuberculosis ...	1	3	1	3	...	1	...	9
Influenza ...	1	1	1	...	1	3	...	7
Measles ...	...	1	...	...	...	...	...	1
Other infectious diseases	1	2	...	1	...	1	1	6
General diseases ...	...	1	...	...	1	...	...	2
Nervous diseases ...	2	3	1	4	1	1	...	12
Bronchitis... ...	2	2	1	1	...	1	...	7
Pneumonia ...	3	12	8	6	11	4	7	51
Other respiratory diseases	...	1	3	...	...	...	...	4
Diarrhœa ...	3	3	8	2	4	4	1	25
Diseases of liver ...	...	...	...	...	...	1	...	1
Other digestive diseases	1	...	1	...	1	1	...	4
Other genito-urinary diseases ...	...	1	...	...	...	...	1	2
Syphilis ...	...	...	...	...	...	2	...	2
Skin and locomotory ...	...	3	1	1	...	...	...	5
Congenital conditions ...	39	27	44	35	35	47	34	261
Violence ...	1	1	...	1	2	...	...	5
Ill-defined ...	...	1	3	...	...	1	1	6
Total ...	62	64	75	57	57	72	46	433

No very useful conclusions can be drawn from such small data, save in so far as they exemplify conclusions drawn from longer ranges of figures.

It will be observed that much the most important cause of infantile death is the group of what are called “congenital

conditions." Those are responsible for the bulk of the mortality during the first month of life—the "neonatal" deaths. Some, in the present state of our knowledge, cannot be directly influenced by administrative action, others may be preventable. The most common cause of neonatal death is prematurity, the death-rate during the first month of life amongst premature infants being far higher than amongst those born at full time. The fact that infantile death from this cause is almost twice as high amongst the poorer classes as it is amongst the well-to-do suggests the existence of some environmental factor which should be remediable.

The problem really presents two aspects—the prevention of premature births, so far as that may be possible, and the provision of such means as will ensure that the premature baby is given the best chance of survival.

As regards the first, we cannot yet speak with certainty on the causes of premature birth. It may be associated with various pre-natal disabilities in the mother, but the correlation does not appear to be significant, and in any case the disabilities referred to are themselves too obscure in origin to make preventive measures applicable at present. It has been suggested by the compilers of the Orr Report on Infantile Mortality in Scotland (1943) that inadequate diet during pregnancy may be a factor of importance.

The premature baby requires expert supervision after birth, and this, in the majority of cases, can best be given in an institution. The arrangements made for dealing with such infants in Cresswell Maternity Hospital are of great value, and can no doubt be extended and improved when a new maternity hospital is built.

Next to congenital conditions, pneumonia and diarrhoea have been the commonest causes of infantile death. The ordinary infectious diseases of childhood are of less importance, and such deaths as they cause usually occur towards the end of the first year of life. It is of some interest to note that during the period under review only one infantile death was registered as due to measles.

I think there is still much to be said for the old dictum that the infantile mortality-rate is the best index of the social environ-

ment of a community. This environment includes not only such matters as housing, water supply, industrial conditions, rate of wages and so forth, which go to make up the general environment, but also the personal environment that individuals and families create for themselves. Public authorities may provide a good general environment, but its proper utilisation is the responsibility of the individual. This has a very direct bearing on infant mortality. The health and well-being of the infant or young child depends very largely on good mothercraft—attention to cleanliness, feeding and rest, protection and guidance. As those improve, infantile mortality falls. Although research on individual causes of infant death and provision of means to deal with them are of unquestionable value, the ultimate reduction of child mortality will probably depend mainly on the creation of a good sanitary environment and education of the public to take full advantage of it. The two are inter-dependant. To expect the best sort of mothercraft in a city slum or a cramped and insanitary country cottage is unreasonable. There is little point in preaching on the laws of health to people living under conditions that make the observance of those laws impracticable.

Maternal Mortality.

The maternal mortality-rate—that is, the number of deaths of women from causes connected with pregnancy, parturition or the puerperium per 1000 births registered during the year—which during the six years before the war had averaged 7·1, rose in 1939 to the unusually high figure of 12·6, but during the remainder of the war was much lower. The figures were :—

Year.	Maternal Deaths.	Maternal Mortality Rate.
1939	11	12·6
1940	1	1·0
1941	2	1·8
1942	5	4·4
1943	8	6·9
1944	4	3·4
1945	3	3·2

Allowing for the variations inevitable when dealing with small figures, those results are reasonably satisfactory.

The commonest single cause of maternal death is puerperal sepsis, which, broadly speaking, is responsible for about a third of the mortality. During the seven years under consideration ten deaths were registered in Dumfriesshire as due to this cause—that is, about 29% of the total.

The following table shows the maternal mortality for women confined in Cresswell Counties Maternity Hospital compared with those confined elsewhere. The numbers are, of course, too small to permit of conclusions being based on them, and are further affected, as in all such comparisons, by the fact that the hospital confinements comprise a higher proportion of abnormal or difficult cases than do those conducted at home.

Year.	ALL COUNTY.		CRESSWELL.		DOMICILIARY.	
	Registered Births.*	Maternal Deaths.	Registered Births.	Maternal Deaths.	Registered Births.	Maternal Deaths.
1939	870	11	27	1	843	10
1940	924	1	140	...	784	1
1941	1068	2	250	2	818	...
1942	1130	5	338	1	792	4
1943	1162	8	360	3	802	5
1944	1150	4	416	...	734	4
1945	1070	3	399	2	671	1
Total	7374	34	1930	9	5444	25
Rate per 1000 Registered Births		4.6		4.6		4.59

* The figures given are for registered births which include still-births. They differ, therefore, for those given on p. 4, which comprise live births only.

INFECTIOUS DISEASE.

The Notifications of Infectious Disease during 1939-1945 were as follows :—

INFECTIOUS DISEASES.

Year.	Cerebro-Spinal Fever.	Diphtheria.	Dysentery.	Encephalitis Lethargica.	Erysipelas.	Malaria.	Ophthalmia Neonatorum.	Pneumonia—Acute Influenzal.	Pneumonia—Acute Primary.	Polionmyelitis—Acute.	Puerperal Fever.	Puerperal Pyrexia.	Scarlet Fever.	Tuberculosis—Pulmonary.	Tuberculosis—Non-pulmonary.	Typhoid Fever.	Paratyphoid Fever.	Undulant Fever.
1939 ...	3	94	1	1	27	...	4	11	36	1	1	9	264	43	35	...	...	1
1940 ...	61	196	2	...	31	1	1	25	45	2	2	5	289	34	31	...	...	2
1941 ...	34	181	12	1	19	2	2	21	54	5	2	7	163	45	31	...	...	2
1942 ...	17	92	14	1	14	2	1	8	37	...	...	5	123	50	30	...	...	...
1943 ...	21	77	17	3	25	...	...	17	30	...	4	4	137	59	43	27	...	1
1944 ...	14	106	69	2	30	19	...	9	44	1	1	7	107	41	27	1	4	2
1945 ...	16	89	28	...	22	4	...	3	37	2	1	7	143	61	36	...	...	1

Enteric Fever.—A limited outbreak occurred in an institution in the County during the early part of 1943. Fortunately it proved possible to confine it to one building.

Water supply and milk could be exonerated, and it seemed practically certain that the outbreak must have been caused by a carrier. Several carriers were ultimately detected, but not until it was too late to say whether any one of them had been the cause or was merely a result of the general infection. A total of 44 persons were isolated and kept under supervision; of those 26 were finally accepted as typhoid fever. There were 6 deaths.

In addition to the routine bacteriological examinations made on cases and suspects, all the inmates of the building in which the outbreak occurred were repeatedly examined to ensure, as far as possible, that no unrecognised source of infection existed. The total number of bacteriological examinations made in the County Laboratory in connection with this outbreak was 1275.

All necessary precautions were taken to prevent spread to other parts of the institution, and those, fortunately, proved successful.

The total number of cases notified as typhoid fever during the seven years under review was 28. In addition there were 10 cases of paratyphoid fever. All were sporadic, 2 occurring in each of the years 1940-41-42, and 4 in 1944. All recovered. The statistics of the notified cases of Typhoid Fever in the County and Small Burghs for the years 1939-45 have been:—

	1939.	1940.	1941.	1942.	1943.	1944.	1945.
Cases	27	1	...
Deaths	6	...	...
Morbidity per 1000	0.47	0.02	...
Mortality per 1000	0.10	...	...
Case Fatality %	22.2	...	...

Scarlatina requires no special comment. It maintained its usual prevalence during 1939 and 1940, but diminished considerably during the 5 following years.

The statistics of the notified cases of Scarlatina in the County and Small Burghs during the years 1939-45 have been :—

	1939.	1940.	1941.	1942.	1943.	1944.	1945.
Cases	264	289	163	123	137	107	143
Deaths ... ..	...	3	...	...	1	...	...
Morbidity per 1000	4·6	5·1	2·7	2·1	2·4	1·8	2·5
Mortality per 1000	...	0·05	...	...	0·02	...	...
Case Fatality % ... ..	...	1·0	...	...	0·73	...	...

Cerebro-Spinal Fever.—As is often the case when large bodies of unseasoned troops are embodied, especially if they are housed in improvised and overcrowded barrack rooms, cases of Cerebro-Spinal Fever occurred. It is difficult to say what proportion of the patients notified were actually suffering from the disease, partly because modern methods of treatment may cut it short in its early stages, and the majority of patients, both military and civilian, had already received some treatment before removal to hospital, partly because when this dangerous disease is known to be prevalent practitioners naturally and very properly notify cases that present suspicious symptoms without waiting till the diagnosis has been confirmed, and partly because pressure of other work in the earlier part of the war prevented our making as full bacteriological investigations of the cases as would have been done in ordinary circumstances. The following table shows the notifications for each year and the number which were accepted, either as the result of laboratory examination or on other good evidence, as cases of Cerebro-Spinal Fever :—

Year.	Notifications.	Accepted as cerebro-spinal fever.
1939	3	...
1940	61	36
1941	34	24
1942	17	7
1943	21	2
1944	14	2
1945	16	3

Deaths registered as due to Cerebro-Spinal Fever were :—
1939—None ; 1940—12 ; 1941—7 ; 1942—3 ; 1943—4 ;
1944—5 ; 1945—1.

Diphtheria.—This was the only infectious disease that assumed epidemic form in the County during the war years.

The figures for the eleven years 1935-1945 were :—

Year.	Notifications.	Morbidity per 1000.	Deaths.	Mortality per 1000.
1935	80	1.3	5	0.08
1936	55	0.9	3	0.05
1937	63	1.1	3	0.05
1938	59	1.0	...	...
1939	94	1.6	2	0.03
1940	196	3.4	8	0.14
1941	181	3.0	7	0.12
1942	92	1.5	2	0.03
1943	77	1.3	6	0.11
1944	106	1.9	3	0.05
1945	89	1.5	4	0.07

It will be observed that a rise in incidence began in 1939 and the disease was much more prevalent than usual during 1940 and 1941, the incidence in the first of those years being the highest recorded in the County for a quarter of a century.

The case-fatality of the disease in Dumfriesshire during these two years was little above that for the preceding decade.

As Diphtheria was generally prevalent throughout Scotland, the Department of Health pressed local authorities to prepare schemes for the immunisation of children against the disease. It was unfortunate that this had to be done as a matter of emergency. Mass-immunisation against Diphtheria had been undertaken in several other countries, particularly in the U.S.A. and Canada, for many years, and a great deal of information on the subject had been collected. This seemed to indicate that, though the process is one of great value, it is influenced by a variety of factors whose nature is not yet fully known and whose importance cannot yet be properly assessed. A preliminary scientific inquiry to clear up some of the problems which practical experience in other countries had showed to be of importance would have been a valuable preliminary to the national campaign for immunisation. Time did not permit this, nor, indeed, were sufficient trained workers available to undertake an investigation which must have lasted for a long

time. It is to be hoped that this work may be initiated after the war, as there is evidently much yet to be learned in regard to the epidemiology of the disease.

The problem of immunising children, especially in rural areas, must be approached in two ways. Children who have reached school age can be immunised at school. The pre-school children cannot be dealt with so easily. A fair number are brought to the schools when those are at no great distance from their homes, but in districts where the population is scattered this is not possible. Fortunately all the medical practitioners in the County agreed to co-operate in the scheme, and the number of pre-school children immunised throughout the County has in consequence been much greater than it would have been without the practitioners' assistance.

At the time of writing it is estimated that 2657 pre-school and 11,565 school children (this, of course, includes school children within the Large Burgh of Dumfries) and 5640 persons over 15 have been immunised.

It is difficult to assess the results of the immunisation campaign. An epidemic such as occurred in 1940-41 has in itself a considerable immunising effect, and it is not easy to distinguish the results of this from those due to active immunisation. There are two questions to be considered—first, have the children who have been immunised shown a smaller incidence of Diphtheria and a lower mortality than those who have not, and second, has the general incidence of the disease throughout the district been reduced?

The first question is apparently a simple one, but in reality is no such thing. It is not to be answered by dividing the child population into those who have been immunised and those who have not, and then estimating the incidence of the disease and the percentage of deaths in each group. The constitution of each group and the numbers comprising it are constantly changing. So long as the public are taking advantage of facilities for immunisation, children are continually passing from the "non-immunised" to the "immunised" group, and it is not possible to say what proportion of those classified as immunised at the end of a year may have been exposed to, and successfully resisted, infection before they had been immunised.

at all. This fallacy must be kept in mind especially after an epidemic when the degree of natural immunity in the child population may be expected to be fairly high.

Again, it must be remembered that when two groups of the population are compared they should be identical save in regard to the characteristic in respect of which the comparison is made—that is, there should be only one variable factor. Now it is not possible to divide children into groups which are identical in all respects save that one group has been immunised while the other has not. Apart from anything else, it is not possible to say that both groups have been equally exposed to the risk of infection, and this, of course, is a point of primary importance, especially in a scattered rural population.

Another source of error is the ordinary movement of population. Children who have been immunised leave the county, others who may or may not have been immunised come to it. There is, of course, no easily available means of getting immediate information, so that fluctuations in the immunised and non-immunised groups take place without our knowledge.

For those reasons it would, I think, be unwise to draw any very definite conclusions from the figures at present available as to the effect of immunisation in Dumfriesshire. As they stand, they seem to indicate a degree of protection amongst immunised children so far as death from Diphtheria is concerned. There were six deaths from Diphtheria in 1943, and three in 1944, and four in 1945. Of those, only one was in a child that had been immunised.

The second question is more easily answered. So far there is no evidence that the incidence of Diphtheria in Dumfriesshire has been reduced by immunisation. During the ten years 1930-1939 the average number of notifications of Diphtheria in the County was 72.3. The immunisation campaign was begun in 1941, and should be showing its effects by now. But in 1943 the number of notifications received was 77, in 1944 it had risen to 108, and in 1945 with 89 notifications was still above the previous average.

It would, of course, be wrong to argue from the experience of a small population such as that of the County during a short period of time, especially when, as I have already said, we are

still ignorant of some of the factors on which the incidence of Diphtheria depends.

The experience of Scotland as a whole since mass immunisation was introduced shows a reduction of incidence, though by no means so dramatic as that reported from various parts of the U.S.A. and Canada. The number of notifications fell from 15,711 in 1940, when the epidemic was at its height, to 8081 in 1944—the lowest figure since 1932. The average annual number of notifications during the period 1935-1939 was about 10,600.

Though it cannot be claimed that mass immunisation in the County has so far been followed by any outstanding diminution in incidence, it would be wrong to suggest any slackening in our endeavours to get as many children immunised as possible. It is essential that the work should be carried on for a long time before conclusions of any value can be reached.

Types of Infection.—It is now recognised that the bacilli which cause Diphtheria may be classified, by appropriate tests, into several types, the principal ones being distinguished as Gravis, Intermedius and Mitis. The relative severity of the disease caused by each type is, broadly, as the names suggest.

During 1943, 1944 and 1945 all Diphtheria strains isolated in the County Laboratory have been typed with the following results :—

	Gravis.	Intermedius.	Mitis.	Atypical.	Total.
Dumfriesshire ...	141	22	31	1	195
Kirkcudbrightshire	20	10	1	...	31
Wigtownshire ...	42	11	4	...	57
Dumfries Burgh ...	55	14	9	1	79
Total ...	258	57	45	2	362

During 1945 the Gravis type became less common, and Mitis more so. The percentages of each type isolated during the three years were :—

	Gravis.	Intermedius.	Mitis.	Atypical.
1943 ...	80.2	11.7	8.1	...
1944 ...	78.2	15.7	5.2	0.7
1945 ...	55.0	19.5	24.5	0.8

A sufficiently long series of observations on the varying incidence of these types, from time to time and from place to place, would, I believe, provide data of value for the study not only of the effect of immunisation but of the epidemiology of Diphtheria.

Dysentery, which had been fairly prevalent in 1938, did not appear to be common during the next two years, but thereafter increased in frequency till 1944, in which year 69 cases were notified. No great reliance can be laid on the figures as the prevailing type of this disorder is mild, many cases are very transitory and are not seen by any doctor. The figures were :—

Year.	Cases notified.	Cases admitted to hospital.
1939	1	...
1940	2	...
1941	13	1
1942	14	9
1943	17	1
1944	69	8
1945	28	11

The patients removed to hospital were mainly service personnel.

The other acute infectious diseases call for no special comment. Influenza fortunately did not attain epidemic proportions during the years under consideration—a contrast with the first World War, when the outbreak of 1918-19 attained such proportions as to give it a high place among killing pandemics in the history of civilisation.

Eleven cases of Puerperal Fever and forty-four of Puerperal Pyrexia were reported during 1939-45.

HOSPITALS.

The hospitals to which the Council send patients under their various statutory powers fall into three classes :—

(1) Hospitals owned and administered by the Council. Those are the four isolation hospitals at Lochmaben (35 beds), Annan (26 beds), Thornhill (24 beds) and Eskdale (20 beds). They are used for the isolation and treatment of infectious diseases. The total number of beds (105) should theoretically

be sufficient for the needs of the County, but their dispersal in four small hospitals makes it impossible to use them all economically.

(2) Hospitals owned and administered by Joint Boards of which the Council is a constituent member. Those are (a) Lochmaben Sanatorium, where all forms of tuberculosis are treated. The sanatorium has (normally) 132 beds, of which 58 are allocated to Dumfriesshire. (b) Cresswell Counties Maternity Hospital, with 55 beds, of which 33 are allocated to Dumfriesshire.

(3) Hospitals to which patients for whom the Council accepts responsibility are admitted on a customer basis. Those are :—

- (a) The Dumfries and Galloway Royal Infirmary, to which children are sent under the Maternity and Child Welfare Scheme and the Scheme for Medical Inspection and Treatment of School Children for operative treatment of tonsils and adenoids. The Infirmary also takes poor-law patients in need of institutional treatment.
- (b) The Princess Margaret Rose Hospital at Fairmilehead for orthopaedic conditions.
- (c) The Royal Infirmary, Edinburgh, for persons suffering from venereal disease requiring institutional treatment. (A few such patients have been sent to Cumberland Infirmary, Carlisle.)
- (d) The Western Infirmary, Glasgow, for patients requiring special treatment for malignant disease. No scheme under the Cancer Act of 1939 has yet been made for the County, but arrangements for individual patients are made by the M.O.H. and reported to the Committee.

Attempts are at present being made to extend the Council's orthopaedic service by arrangements with the Victoria Infirmary, Glasgow, and the Dumfries and Galloway Royal Infirmary.

None of the Council's isolation hospitals was requisitioned for war purposes, though it was realised that circumstances might possibly arise when they might have to be cleared out and used for casualties. Fortunately, this was not necessary. But the increase of population, due to the presence of troops and civilian war-workers in the County, might well have overstrained our resources had a serious epidemic occurred. To meet this

risk an arrangement was made whereby the County Council and the Town Council of the Burgh of Dumfries agreed to pool their hospital accommodation, and, in addition, a pavilion forming part of the sanatorium at Lochmaben was transferred temporarily to the isolation hospital there. This made it possible to accommodate all the Diphtheria patients during the epidemic of 1940-41. Had the extra accommodation not been available we should have been in serious difficulty. The arrangement was terminated in 1942, and the relatively low incidence of infectious disease during the remainder of the war made it possible to deal with patients requiring isolation without much trouble.

The number of patients admitted to the Council's isolation hospitals and to Lochmaben Sanatorium during the years 1939-1945 is shown in the following table :—

Table III.
ADMISSIONS TO ISOLATION HOSPITALS AND SANATORIUM,
1939-1945.

	1939	1940	1941	1942	1943	1944	1945	Total.
Cerebro-spinal fever ...	3	55	28	17	18	13	13	147
Diphtheria ...	93	196	179	87	73	105	88	821
Dysentery ...	...	...	1	9	1	8	11	30
Encephalitis lethargica ...	...	...	...	1	2	...	...	3
Erysipelas ...	3	3	2	3	8	10	4	33
Malaria ...	...	1	...	...	...	...	...	1
Ophthalmia neonatorum ...	...	...	...	1	...	...	1	2
Pneumonia ...	9	1	9	3	12	9	7	50
Poliomyelitis (acute) ...	...	1	1	...	...	...	...	2
Puerperal fever ...	1	2	2	...	3	1	1	10
Puerperal pyrexia ...	6	2	3	2	1	3	3	20
Scarlatina ...	253	275	162	119	131	104	138	1182
Tuberculosis—								
Pulmonary ...	28	21	21	31	29	40	27	197
Non-pulmonary ...	22	7	6	11	13	15	12	86
Typhoid fever ...	...	...	...	...	...	1	...	1
Paratyphoid fever ...	...	2	1	2	...	4	...	9
Undulant fever ...	...	1	...	...	...	...	...	1
Total ...	418	567	415	286	291	313	305	2595

So far as hospital services for the County are concerned, the most important event during the war was the establishment of Cresswell Counties Maternity Hospital. The need for such a hospital in the south-west of Scotland had long been recognised as urgent. Conversations between representatives of the local authorities and the Directors of the Dumfries and Galloway

Royal Infirmary on this and other aspects of hospital service were begun in 1936 and by the middle of 1939 had reached no conclusion. By September, 1939, however, in consequence of the outbreak of war, the hospital was established and was receiving patients. The "evacuees" from dangerous areas who, it was understood, would come to reside in Dumfries and Galloway included a number of expectant mothers. They could not conveniently be confined in billets, and the provision of institutional facilities was imperative. By an arrangement with the Town Council of Dumfries the inmates of Rosevale, an institution belonging to the Burgh, were transferred to other quarters, and Rosevale was equipped and opened as Cresswell Counties Maternity Hospital. The wisdom of this was amply proved during the course of the war. Although comparatively little use was made of the hospital by the expected immigrants, most of whom eventually decided to remain in their homes or returned to them after a very brief stay in the county, it has been of the greatest value to women normally domiciled in the district as well as to those temporarily resident here for reasons connected with the war. The building, designed originally for an entirely different purpose, is of course open to criticism in many respects, and Dr Bruce Dewar and his staff are to be congratulated on the energy and ingenuity with which they have met and overcome difficulties that would not have confronted them in a properly designed institution, such as, I hope, may be available in the not too distant future.

The number of women from Dumfriesshire admitted to Cresswell Counties Maternity Hospital for confinement or for reasons connected with pregnancy during the war was as follows :—

1939	...	...	...	...	30
1940	...	...	...	...	163
1941	...	...	...	...	294
1942	...	...	...	...	369
1943	...	...	...	...	399
1944	...	...	...	..	460
1945	...	...	...	...	436
Total					2151

Admissions to other hospitals are shown in the following table :—

Table IV.

	1939	1940	1941	1942	1943	1944	1945	Total.
Dumfries and Galloway Royal Infirmary ...	261	270	221	291	215	275	377	1910
Princess Margaret Rose Hospital, Fairmilehead	3	...	7	7	6	7	5	35
Royal Infirmary, Edin- burgh ... ..	...	...	2	3	8	7	8	28
Western Infirmary, Glas- gow	2	1	3	1	5	6	9	27
Other Institutions ...	...	1	1	...	2	4	5	13

During 1945 a committee of the Dumfries and Galloway Division of the British Medical Association prepared a report on hospital services in the area, indicating the lines on which, in their opinion, those services should be developed. The subject was approached entirely from the medical standpoint: questions of administration and finance were not touched upon. The provision of an adequate hospital service must, unfortunately, take a considerable time. It is interesting to note that the Report on the Western Region, which forms part of the Scottish Hospitals Survey, deals with Dumfries and Galloway on lines very similar to those adopted by the local reporters. Under the proposed National Health Service hospital arrangements for Dumfries and Galloway will be made in accordance with the general hospital policy to be adopted for the Western Region, but it seems desirable that those interested in the local service should form their opinions on what long-term policy is best in local interests so that they can make such representations as are possible at the appropriate time.

TUBERCULOSIS.

The fall in the death-rate from Tuberculosis in the county landward and small burghs since 1891 is shown in the following table :—

				Pulmonary.	Non-Pulmonary.	Total.
1891-1910 (mean)...	...	...	...	1·647	0·692	2·339
1911-1920 (mean)...	...	...	...	1·028	0·353	1·381
1921	...	...	...	0·839	0·117	0·956
1922	...	...	...	0·859	0·214	1·073
1923	...	...	...	0·910	0·240	1·150
1924	...	...	...	0·699	0·290	0·989
1925	...	...	...	0·921	0·301	1·222
1926	...	...	...	0·693	0·270	0·963
1927	...	...	...	0·722	0·387	1·109
1928	...	...	...	0·828	0·236	1·064
1929	...	...	...	0·510	0·209	0·719
1930	...	...	...	0·543	0·156	0·699
1931	...	...	...	0·46	0·34	0·79
1932	...	...	...	0·62	0·12	0·74
1933	...	...	...	0·42	0·28	0·70
1934	...	...	...	0·49	0·21	0·70
1935	...	...	...	0·32	0·21	0·53
1936	...	...	...	0·43	0·15	0·58
1937	...	...	...	0·38	0·08	0·46
1938	...	...	...	0·48	0·11	0·59
1939	...	...	...	0·21	0·09	0·30
1940	...	...	...	0·34	0·15	0·49
1941	...	...	...	0·38	0·08	0·46
1942	...	...	...	0·31	0·25	0·56
1943	...	...	...	0·32	0·08	0·40
1944	...	...	...	0·25	0·19	0·44
1945	...	...	...	0·36	0·16	0·52

It will be observed that in 1939 the death-rate from all forms of tuberculosis had fallen to 0·30 per 1000 population, but during the war years was well above that figure, due, mainly, to an increase in deaths from pulmonary tuberculosis. The rate for 1939 was, however, unusually low, and though the figures for the succeeding years are higher they do not represent a serious interruption in the fall that has been going on for

many years. An increase in the number of deaths during war does not necessarily indicate a corresponding increase in the incidence of the disease. Patients suffering from tuberculosis who, under normal conditions, might have a reasonable expectation of life for a number of years, may be unable to withstand the extra strain which war conditions impose on them, so that during a single year there may occur a number of deaths that normally would have been spread over a longer time. Apart from this, however, there appears to have been a real increase in the incidence of tuberculosis consequent on the war, though this was probably less marked in rural districts like Dumfriesshire than in urban and industrial areas.

Notifications of tuberculosis during the war years were :—

Year.	Pulmonary.	Non-Pulmonary.	Total.
1939	43	35	78
1940	34	31	65
1941	45	31	76
1942	50	30	80
1943	59	43	102
1944	41	27	68
1945	61	36	97

Those figures represent an average rate of 1·35 notifications per 1000 estimated population, as against 1·48 in the preceding five years and 2·3 for the decade 1924-33.

The number of cases of tuberculosis sent to sanatorium or hospital during the period was :—

Year.	Pulmonary.	Non-Pulmonary.	Total.
1939	28	22	50
1940	21	7	28
1941	21	6	27
1942	31	11	42
1943	29	13	42
1944	40	15	55
1945	27	12	39

Dr Drainer submits the following note :—

The value of early diagnosis of tuberculosis and the early adoption of appropriate treatment has long been recognised. In an effort to find cases in the early stages of the disease a

routine examination by X-ray of all immediate contacts of known cases of pulmonary tuberculosis was carried out during 1945. During the war, two main difficulties stood in the way of providing early treatment for all cases: (a) shortage of nursing staff at Lochmaben Sanatorium and (b) reluctance amongst patients themselves to cease work at a sufficiently early stage of the disease.

(a) In regard to staff, the shortage became really acute during the early months of 1945. Until that time, fifty-two patients from Dumfries County could be accommodated at Lochmaben Sanatorium but, in March of that year, owing to shortage of nurses, the number of available beds was reduced to forty. Accommodation for four patients who could not be sent home was found at Annan I.D. Hospital. Although the "turn-over" of patients at the Sanatorium has been quicker, the lack of available beds has been detrimental to anti-tuberculosis work.

(b) The Pulmonary Tuberculosis Maintenance Scheme was devised to encourage patients found to be suffering from pulmonary tuberculosis to accept institutional treatment during the early stages of the disease. By this Scheme suitable patients, while undergoing treatment, may receive a maintenance allowance for themselves and their dependants and, at the discretion of the council, payments to meet standing charges associated with the maintenance of the home. The Scheme has been of great help to those patients who are eligible, but there is an unfortunate discrimination between them and the patients who, by the severity of their disease, may not benefit from the Scheme. It is felt among those who deal with tuberculosis that the provisions of the Scheme should be extended to benefit all who are incapacitated by the disease. The following shows the working of the Scheme from its inception in January, 1944, to December, 1945, in Dumfries County:—

Number of applicants	...	...	...	...	...	34
Number of applications granted	...	...	...	...	...	11
Number of applications rejected for medical reasons	...	...	...	...	...	9
Number of applications rejected for financial reasons	...	...	...	...	...	9
Receiving grant at 31/12/45	...	...	...	...	...	4
Total of payments made under the Scheme	...	...	...	...	...	£678

VENEREAL DISEASES.

The incidence of those diseases, as judged by attendances at the clinic, increased rapidly during the war, the number of new patients reporting for treatment in 1940 being double that in 1939 (see Table V.) and this figure being again doubled in 1942. This, of course, does not imply that venereal disease became much more common amongst the ordinary population. The increase may be largely ascribed to (1) the presence of large bodies of troops in the district, some of whom were infected, (2) the arrival of female camp-followers of an undesirable type attracted by the presence of the military, and (3) the establishment of a camp of negro foresters, so many of whom were found to be infected, that a special day had to be arranged for dealing with them at the clinic.

The following table shows the number of new cases reporting for examination and treatment each year :—

Table V.

	Syph.		Gon.		N-Sp. Ven.		Non-Ven.		Total.		Total.
	M	F	M	F	M	F	M	F	M	F	
1939 ...	9	2	19	4	8	6	2	...	38	12	50
1940 ...	23	11	39	2	12	6	3	5	77	24	101
1941 ...	25	23	38	16	12	2	9	16	84	57	141
1942 ...	63	36	36	17	17	6	22	22	138	81	219
1943 ...	42	19	39	18	24	11	31	52	136	100	236
1944 ...	66	29	21	9	24	12	33	36	144	86	230
1945 ...	22	32	45	27	15	11	27	52	109	231	231

It is satisfactory to note the great increase in the number of persons attending for examination who are found to be suffering from non-venereal conditions. In 1939 of 50 new patients 2 (4·1%) were non-venereal, while in 1945 of 231 new patients 79 (34·2%) came into this category. This, of course, means that many persons now report for advice as soon as any suspicion of venereal infection arises, and not, as was formerly too often the case, only after the signs are obvious and the disease well established.

The inconvenience of having the clinic at the County Buildings has been emphasised by the war. On every account work of this sort should be carried on at a hospital, and it is hoped that when future hospital policy is considered this matter will be kept in view.

MATERNITY AND CHILD WELFARE.

No special change in the method of carrying on this work took place during the war. The only clinic in the county—if the nurses' room at the local government office at Kirkconnel can be so described—was destroyed by enemy action, fortunately at a time when it was unoccupied. Against this can be set the fact that the clinic at Cresswell Counties Maternity Hospital is being used by increasing numbers of expectant mothers as well as by those who return to it for advice during the post-natal period.

One service of outstanding importance that has been developed during the war years is that by which extra milk and vitamin containing foods are provided for expectant mothers and young children. This is, of course, a national not a local service. It may well be that the wise decision to ensure a supply of such foods, taken at a time when it was evident that the national resources would require careful husbanding, has been one important cause of the good standard of public health which has been generally reported during the war.

The arrangements with the local Nursing Associations by which district nurses carry out certain statutory duties continue in force. Although much excellent work is done by these nurses the system is unsatisfactory in various respects. The distribution of nurses is uneven and governed by the amount of local support available rather than by the requirements of public service, several areas in the county are still without any regular arrangement for nursing, and the present scarcity of trained nurses has, in some instances, made it difficult to fill vacancies. Further, some of the nurses state that the pressure of other work prevents them giving sufficient time to the statutory duties. I have already reported on several occasions to the Public Health Committee and the County Nursing Association on this matter, and need not refer to it in detail now, especially as the whole subject will have to be considered shortly in relation to the Government's proposals for a National Health Service.

The following table gives a brief summary of the work done by Health Visitors and District Nurses during the war years :

Table VI.

Maternity and Child Welfare.

STATUTORY VISITS BY NURSES AND HEALTH VISITORS.

Year.	Mothers.		Children.	
	Ante-Natal.	Post-Natal.	0 — 1	1 — 5
1939 ...	2742	8763	9448	9039
1940 ...	2841	7743	10051	9430
1941 ...	3192	8831	10335	10427
1942 ...	3694	7909	11053	9283
1943 ...	3028	7979	10823	5793
1944 ...	2974	7524	11662	9682
1945 ...	2849	6161	11591	10615

SCHOOL MEDICAL AND DENTAL SERVICE.

As a lengthy report on the school medical and dental service has recently been submitted, it seems unnecessary to give more than a brief outline of its activities during the war years. The work was much interrupted at first, as both school medical officers had to take on special duties in connection with civil defence, and during 1941 about half their time had to be given up to the immunisation campaign against Diphtheria.

As far as the school population is concerned, the war does not seem to have had any marked adverse effect on health. The number of children in whom nutrition was noted as "slightly defective" showed a definite increase, but this seems to have been largely due to the fact that the inspectors were specially on the look-out for any cases in which there might be under-nourishment rather than to an actual increase in malnutrition.

It was feared that the transfer of a large number of city children to the county under the Government's evacuation scheme might be followed by an increase of infection among country children, and certainly the state of many of the incomers seemed to justify this expectation so far as skin infections were concerned. Thanks largely to the efforts of the district nurses, the householders on whom the children were billeted and voluntary workers, the state of matters was much improved. Some of the worst cases of Impetigo and Scabies were removed to hospital for treatment, but the majority were dealt with at home.

Scabies had shown a tendency to increase before the war, but the incidence in Dumfriesshire during the period under review was sufficiently high to suggest that the influx of city children may have been at least partly responsible for it. The percentage of children found at systematic examinations in 1939-40 to be suffering from scabies was 0·4%. During 1941-42 it was 1·3%, and during 1942-44, 2·3%. In 1944-45, however, it had dropped to 1·0%.

The incidence of Impetigo, on the other hand, showed little change.

The treatment of Skin Infections of the more severe sort presents difficulties in a rural area. Cases which in a town could be taken to a clinic and dealt with as out-patients may, under rural conditions, have to be removed to hospital and treated there as out-patients for several days. It is scarcely practicable to treat them in homes that contain no bath and where hot water can be obtained only when it has been carried from a neighbouring standpipe and heated on the kitchen fire. But hospital isolation of such cases cannot always be arranged. It depends on beds being vacant and nurses available.

Table VII. shows the annual number of children examined at systematic and other visits, and Table VIII. the broad classification according to results. The obvious increase in the numbers in IV. (a) during the later years of the war is almost entirely due to the raised standard in the assessment of nutrition referred to above.

Table VII.
School Medical Inspection.
(1) SYSTEMATIC EXAMINATIONS.

	Age Periods.					Other systematic Examinations.†
	Entrants	2nd Group	3rd Group	4th Group	Total	
1939-40 ...	1217	86	1014	13	2330	264
1940-41*	969	63	628	6	1666	455
1941-42 ...	1769	139	1057	6	2971	764
1942-43 ...	1541	632	1094	87	3354	434
1943-44 ...	1086	1067	1193	86	3432	622
1944-45 ...	1430	1082	1135	125	3772	395

* Half-year only.

† Those are children who were missed in their proper age-group but subsequently examined as "systematic" cases.

(2) OTHER EXAMINATIONS.

	Special Cases at Routine Visits.	Special Cases at Special Visits.	Re-inspections.
1939-40 ...	273	134	3006
1940-41 ...	211	52	2063
1941-42 ...	208	148	2619
1942-43 ...	350	131	4584
1943-44 ...	314	97	4418
1944-45 ...	331	81	4198

Table VIII.
School Medical Inspections.

	1939 -40	1940 -41 ($\frac{1}{2}$ year)	1941 -42	1942 -43	1943 -44	1945 -45
Total children examined at Systematic Examinations ...	2330	1666	2971	3354	3432	3772
I. Children free from defects ...	1183	862	1239	1243	1314	1420
II. Children (otherwise free from defects) who suffer from—						
(a) defective vision not worse than 6/12 ...	19	10	57	44	65	50
(b) conditions of mouth and teeth requiring treatment	243	129	306	322	433	419
(c) both (a) and (b)... ..	8	2	5	10	12	20
III. Children suffering from ail- ments (other than in II.) from which complete recovery is expected in a few weeks...	438	377	549	454	435	433
IV. Children suffering from ail- ments less remediable than in II. or III.—						
(a) where complete cure is considered possible ...	352	219	687	1090	1017	1255
(b) where improvement only is considered possible ...	87	67	128	191	156	175

Table IX.
School Dental Service.

	Schools Visited.		Children examined.
	Inspection.	Treatment.	
1939-40 ...	91	89	7589
1940-41 ...	82	80	7613
1941-42* ...	46	46	5146
1942-43 ...	64	64	5243
1943-44 ...	47	46	4571
1944-45 ...	64	64	5348

* Only one dentist from this time onwards.

	Children requiring treatment.*	Treated.†	Refused.	Appoint- ment not kept.	No reply.
1939-40 ...	4302	2238	1637	175	252
1940-41 ...	5283	3481	1942	138	96
1941-42 ...	2856	1664	1185	104	197
1942-43 ...	3039	1721	1199	130	160
1943-44 ...	2497	1508	922	54	111
1944-45 ...	2538	1491	956	97	92

* Routine age groups only.

† Includes routine, specials and emergency cases.

THE SICK POOR.

No advance in the method of dealing with the sick poor was made during the war. The present system is open to criticism in various respects, both as regards the domiciliary and the institutional services.

The former is given by parish medical officers, one being appointed for each parish by the local authority. When a poor person is put on the public assistance roll, his medical care becomes the duty of the parish medical officer. This, as has frequently been pointed out, does away with "free choice of doctor," and may entail the persons passing from the care of the doctor who has been treating him into that of one who is a complete stranger. This objection, however, is of less moment in rural than in urban areas, as in the former all medical practice, public and private alike, is often in the hands of one medical man.

The alternative method is the formation of a panel of doctors for dealing with public assistance cases, thus enabling a person coming on to the roll to remain under the care of his own doctor. There are advantages in this system, and in my reports of 5.8.44 and 16.2.45 I recommended its adoption.

Institutional treatment for patients suffering from acute illness is provided at the Dumfries and Galloway Royal Infirmary, but the difficulty of keeping patients there for any length of time is obvious. The only other place available is Rowan-tree House and the "chronic sick" have to be treated there. There are very serious objections to using a general poorhouse for this purpose. Apart from the fact that there is no resident

nursing staff, and the patients have to be looked after by other inmates, a poorhouse is not a suitable place for work of this sort. A special objection to its use is that, not infrequently, elderly people who, if they retained their health, would be quite capable of supporting themselves are compelled to apply for public assistance and to enter a poorhouse in order to obtain the institutional care that they require. Provision of hospital accommodation for the chronic sick is an urgent social problem. I have suggested, in sundry reports, that if all the patients suffering from infectious diseases in the county could be dealt with in one central hospital the existing isolation hospitals would be available for other purposes and one or more might be utilised for the treatment of chronic invalids. This problem, however, will soon become one for the proposed Regional Hospital Board, and I need not refer to it further at present.

Of equal, perhaps of greater, urgency is the question of infants and young children for whom the local authority are responsible. I have referred to this on page 3. It is not entirely a matter of public assistance—in fact, provision would probably be made under the Maternity and Child Welfare Scheme—but most of the children to be dealt with will normally be brought to notice through the public assistance department.

At the time of writing there are 18 children in Rowantree House—5 infants, 8 aged 2 to 5, and 5 over 5 years. There are often infants awaiting adoption in Cresswell Maternity Hospital, and there is no doubt that if accommodation were available many other children suitable for admission would be found. I venture to suggest that there is a danger of repeating the mistake so often made in providing maternity hospitals and homes—that is, of underestimating the extent of the problem and making provision on so limited a scale that repeated extensions become imperative and ultimately lead to an expenditure greater than would have been incurred if it had been recognised from the beginning that in social services of this kind supply creates—or rather discovers—demand.

This question has a bearing on the present institutional treatment of the sick poor at Rowantree. Obviously the most efficient and conscientious matron cannot be in two places at the same time.

WATER SUPPLY : SEWAGE DISPOSAL.

In pre-war years it was customary for me to discuss the county water supplies, to draw attention to areas in which they were inadequate or unsatisfactory and, in particular, to point out how seriously housing development was handicapped by the lack of water.

Water supply and sewage disposal are to-day under the ægis of the county engineer, who reports regularly to the public health committee, and the intimate relation between housing and water supply is now fully appreciated. The authority's proposals for the future have been laid before the Department of Health. If they are adapted and acted upon, Dumfriesshire should compare favourably, so far as those essential environmental services are concerned, with any county in Britain.

MILK AND DAIRIES.

Mr Macdonald reports to me as follows :—

Matters of General Interest.

“The administration of the Milk and Dairies Acts and relative Orders has been carried out with gratifying results during the years 1939 to 1944, despite many difficulties brought about by war conditions. During that period the number of dairies registered for milk production in the county, excluding premises registered under Bye-law 44, increased from 603 in 1938 to 723 at the end of 1944.

The general standard of milk production has improved greatly, both in regard to the amount of “Tuberculin Tested” milk produced and the standard of cleanliness of “Designated” supplies. This is more clearly shown under the heading “Milk (Special Designations) Orders.”

Supervisory and advisory work at dairies during the war years was improved and in October, 1942, the Milk and Dairies sub-committee recommended the appointment of two female milk officers to assist in this work. These inspectors took up duties at the beginning of 1943. Most dairies are now inspected at least twice a year, but in the case of dairies where milk is being produced in an unsatisfactory manner, many additional visits are made. In connection with advisory work during

1944, lectures on Clean Milk Production were given to certain Young Farmers' Clubs in the county.

The standard of construction in dairy premises was maintained and, if anything, improved. As a matter of fact, one byre completed in 1944 has been given an effective finishing touch by a German prisoner, who painted a mural along the gable end portraying an Ayrshire herd grazing! All "Designated" dairy premises comply with the requirements of the Dairy Bye-laws as also do many of the "Non-designated" premises. There are some, however, which require much improvement.

At the end of 1944 there were two milking parlours in the County and in those Recorder-Releaser milking plants are installed. It seems that this method of milking is becoming more popular, and as the Dairy Bye-laws do not deal with such premises they should be amended to cover their construction. I might add that the Dairy Bye-laws generally need to be revised and brought up to date.

There are three creameries in the county—Sanquhar, Lockerbie and Cowhill. These creameries act as distributors all the year round, except Cowhill which reverts to cheese making during the summer. Modern heat treatment plants are installed at Sanquhar and Lockerbie Creameries.

Systematic reporting of unsatisfactory milk supplies by creameries was not done until May, 1943, when the Carnation Milk Factory started sending reports of unsatisfactory Methylene Blue Reductase and Acidity tests, and reports of milk rejected. Cowhill creamery started similar reporting in July, 1943, while Sanquhar and Lockerbie creameries did likewise in August, 1944. It should be noted, however, that Sanquhar and Lockerbie creameries were closed and only started up again in October, 1943, and June, 1944, respectively. Carnation and Cowhill were the only creameries which reported during 1943 and 1944, and comparative figures for both creameries together show 552 unsatisfactory reports in 1943 as against 233 in 1944. If these figures can be taken as a criterion a vast improvement is shown in the standard of milk production in the county.

“ Milk and Dairies (Scotland) Act, 1914.”

The number of new dairy premises registered since 1938 is 120. All of these premises are fully up to the standard required by the Dairy Byelaws.

REGISTERED PREMISES AND CLASSIFICATION. *

Classification.	County.				Burgh.				Totals
	Graded.		Non-graded.		Graded.		Non-graded.		
	W	R	W	R	W	R	W	R	
Class 1 ...	530	20	87	35	...	7	...	7	686
Class 2 ...	...	...	96	35	...	...	...	2	133
Class 3 ...	...	...	...	...	...	...	...	...	...
Class 4 ...	...	...	10	1	...	...	...	...	11
Totals ...	530	20	193	71	...	7	...	9	830

(NOTE.—The number of premises registered under Bye-law 44 (Class 3 premises) is not given because these premises have not been checked up and visited for some considerable time owing to pressure of other work and lack of staff, and a figure given at present would be inaccurate.

*** CLASSIFICATION :—**

Premises in Class 1 comply with the County Bye-laws in every respect.

Premises in class 2 fall short of the requirements in some respects.

Premises in Class 3 are registered premises where milk is sold in small quantities and butter made.

Premises in Class 4 are registered premises which fall short of the requirements to a greater degree than those in Class 2.

“ Milk and Dairies (Scotland) Order, 1934.”

The order has been generally complied with, but the non-sealing of milk vessels containing milk before handing them over to a common carrier still persists. There seems to be a feeling among farmers that the value of sealing these vessels is negligible. The offence is not peculiar to dairy farmers, however, milk is often consigned by rail from creameries in unsealed

churns. The whole question of the sealing of milk vessels should be gone into in the light of present day handling of milk and, if it is decided that sealing is essential, drastic action should be taken in the matter by every Local Authority in the country.

In addition to the non-sealing of milk churns, attention has had to be drawn on several occasions to defective churn lids.

An occasional case of carrying on of domestic washing in the dairy scullery crops up.

“Milk (Special Designations) Orders (Scotland) 1936 to 1944.”

Since 1938 there has been a huge increase in the number of dairies in the County which are licensed to produce milk under the above Orders. The greatest increase has been in dairies licensed to produced “Tuberculin Tested” milk. At the end of 1944 “Tuberculin Tested” dairies represented 61% of the total number of dairy farms. The following figures show the improvement in this respect from 1939 to 1944:—

Producer's licence.	1939	1940	1941	1942	1943	1944
T.T.	224	231	267	292	329	442
Standard	202	202	204	189	164	88
Total	426	433	471	481	493	530

Sampling of milk produced at “Designated” dairies and the follow-up of unsatisfactory samples represents a heavy part of the programme of this department. The appointment of the female milk officers eased the task in this respect to a certain extent and facilitated more regular sampling of milk from the farms.

In connection with milk sampling there is also a steady improvement to report during the war years. Owing to the change-over of this department from the Veterinary Inspectors to the Sanitary Inspectors in 1938, sampling was not carried out during the whole year. In 1939, however, 1243 samples were taken, 26·2% of which proved unsatisfactory, as compared with 1944 when 2172 were taken, 13·7% of which proved unsatisfactory. Thus the percentage of unsatisfactory

samples has been reduced by half, although almost 1,000 more samples were taken.

Records in the following form were not kept until 1942, but they show, among other things, how the average bacterial counts of "Tuberculin Tested" and "Standard" milk samples have improved from the region of 200,000 to between 50,000 and 70,000. Common bacterial counts, of course, are 1,000 to 20,000, but these average figures take into account also very unsatisfactory samples.

Year.	Total samples taken.			Total unsatisfactory samples.			Average counts.	
	T.T.	St.	Total	T.T.	St.	Total	T.T.	St.
1942 ...	481	347	828	153	161	314	191,021	210,381
1943 ...	1098	854	1952	350	330	680	155,627	209,627
1944 ...	1566	606	2172	170	128	298	56,598	73,874

Where continued unsatisfactory samples are taken of a milk supply and the farmer concerned is making no real effort to improve matters, after due warning his licence under the Milk (Special Designations) Orders is usually suspended. No licences were suspended up to 1942, but in that year five were suspended, twelve in 1943, and one in 1944.

The foregoing report will, I think, help to show that the status of Dumfriesshire as one of the leading dairying counties in the country is being well maintained."

5th March, 1946.

LABORATORIES.

(1) Bacteriological Laboratory.

The following table shows the number of specimens examined yearly, and the sources from which they came:—

Year.	Dumfriesshire.	Kirkcudbrightshire.	Wigtownshire.	Dumfries Burgh.	D. and G. Royal Infirmary.	V.D. Clinic.	Cresswell.	H.M. Forces.	Private.	Total.
1939	3893	2226	1476	521	840	195	...	...	178	9,329
1940	5015	2146	1803	1861	375	192	245	1515	109	13,261
1941	4421	1976	1829	924	854	535	372	547	261	11,739
1942	3145	2013	1900	1008	874	890	526	1157	384	11,897
1943	6307	2167	2225	1067	785	1744	1133	1337	853	17,618
1944	4482	3053	2288	1705	395	893	1499	1329	1048	16,692
1945	4816	3144	2652	1791	121	1582	1697	1482	899	18,184

The increase in the number of specimens examined in 1940 over that in 1939 is mainly due to the prevalence of diphtheria in the former year.

The increase during 1943-1945 was due to:—

- (1) The greater number of milk samples examined following the appointment of two lady dairy inspectors in 1943.
- (2) The increase in specimens from the V.D. clinic.
- (3) The occurrence in 1943 of an outbreak of enteric fever (*v. supra.*) This entailed the examination of 1275 specimens.

(2) Chemical Laboratory.

The following table shows the number of specimens examined yearly and the sources from which they came :—

Year.	Dumfries-shire.	Kirkeud-brightshire.	Wigtown-shire.	Other Sources.	Total.
1939 ...	2124	1638	1257	62	5081
1940 ...	1907	1045	1170	49	4171
1941 ...	1522	267	1429	54	3272
1942 ...	1573	303	1678	60	3614
1943 ...	2649	484	1835	71	5039
1944 ...	2988	481	879	88	4436
1945 ...	3009	458	181	135	3783

The reduction in the number of specimens sent from Kirkcudbrightshire from 1940 onwards is due to that authority's decision to stop the chemical examination of "Special Designation" milks as that is no longer required by the regulations. Wigtownshire adopted the same policy in 1944.

